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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,447	11/29/2004	Raanan Ben-Horin	7031P007	2936

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EXAMINER

RIPLEY, JAY R

ART UNIT PAPER NUMBER

3679

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/516,447

Applicant(s)

BEN-HORIN, RAANAN

Examiner

Jay R. Ripley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/29/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The references cited in the Search Report conducted by the PCT, mailed 20 Dec. 2002, have been considered, but will not be listed on any patent resulting from this application because they were not provided on a separate list in compliance with 37 CFR 1.98(a)(1). In order to have the references printed on such resulting patent, a separate listing, preferably on a PTO/SB/08A and 08B form, must be filed within the set period for reply to this Office action.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: characters 110a, 210a, 214, and 114 as found in Figures 6 and 7; characters 518 and 618 as found in Figures 10 and 11; character 818e as found in Figure 15. The drawings are further objected to because of the use of incorrect hatching of the plastic components in Figures 1, 4, 6, and 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the

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applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1, 8, 9, 10, 13, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 1 recites the limitation of a “projection means”, on line 6, has been set forth without a corresponding function to be performed and therefore there is no basis for determining what the structure is or what would be an equivalent.

6. Claim 8 recites the phrase “configured to accommodate an elastomeric gasket ” in line 2. It is unclear what exactly ”configured to accommodate” means. Is any particular configuration being required? Also, it is unclear if the “elastomeric gasket” is supposed to be the same gasket as set forth in claim 1, line 4, which has the same parenthetical designator, or another gasket.

Note that the gasket of claim 1 is not positively claimed as being elastomeric. It is further unclear if the gasket of claims 8 and 9 is the elastomeric gasket of claim 8 or the gasket of claim 1. For this Office action only, the gasket of claims 8, 9, and 10 will be treated as the gasket of claim 1 for claim rejection purposes.

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7. Claim 13 recites the limitation “the cone surface” on line 2. There is insufficient antecedent basis for this limitation in the claim. Is this the same surface as the “cone-shaped surface” of claim 11? For this Office action only, the surface of claims 11 and 13 will be treated as the same for rejection purposes.

8. Claim 16 recites the limitation “wherein the bores” in line 1. There is insufficient antecedent basis for this limitation in the claim. For this Office action only, claim 16 will be treated as being dependent upon claim 15 for claim rejection purposes, which provides antecedence.

9. Claim 19 sets forth the limitation of “an elastic band” in line 2. Is this supposed to be the same as the “external elastic band” of claim 17, line 3 or in addition thereto? For this Office action only, the band of claim 19 will be treated as the band of claim 17 for rejection purposes.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1, 2, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenyon (U.S. 3,861,722). In regard to claim 1, Kenyon discloses a pipe coupling having a pipe (10)

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formed with a circumferential groove (14), the coupling comprising a gasket (30), a mounting ring (16), and a mounting flange (18), characterized in that the ring is elastically expandable, and formed with projection means (the Figure).

12. In regard to claim 2, Kenyon discloses wherein the ring is split (column 1, lines 59-61)

13. In regard to claim 6, Kenyon discloses that the projection means comprises a circular rib (column 1, lines 12-20 and 57-61).

14. Claims 1-3, and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Manton (U.S. 3,652,110). Manton discloses a pipe coupling having a pipe (11) formed with a circumferential groove (29), the coupling comprising a gasket (15), a mounting ring (28), and a mounting flange (12), characterized in that the ring is elastically expandable, and formed with projection means (Figure 4).

15. In regard to claim 2, Manton discloses wherein the ring is split (Figure 5).

16. In regard to claim 3, Manton discloses wherein the ring is split by a cut extending in an axial plane thereof (Figure 5).

17. In regard to 6, Manton discloses wherein the projection means comprise a circular rib (Figure 4).

18. Claims 1, 2, 6, 11, 12, 14, 15 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Baker (U.S. 6,394,507). In regard to claim 1, Baker discloses a pipe coupling

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having a pipe (102a) formed with a circumferential groove (114a), the coupling comprising a gasket (112), a mounting ring (122), and a mounting flange (32a), characterized in that the ring is elastically expandable, and formed with projection means (Figure 2).

19. In regard to claim 2, Baker discloses wherein the ring is split (column 9, lines 23-26).
20. In regard to claim 6, Baker discloses wherein the projection means comprise a circular rib (column 9, lines 23-26, Figure 2).
21. In regard to claim 11, Baker discloses wherein the ring has an outer cone-shaped surface (column 9, lines 29-30).
22. In regard to claim 12, Baker discloses wherein the cone angle is between 15 degree-30 degrees relative to the axis of the ring (column 9, lines 40-43 and column 6, lines 36-40).
23. In regard to claim 14, Baker discloses wherein the mounting flange is formed with an inner cone-shaped surface (34) matching the cone-shaped surface (124a) of the ring (Figure 2).
24. In regard to claim 15, Baker discloses wherein the mounting flange (32a) is formed with a series of bores (36a) through which tightening bolts (40) are may pass (Figure 2, column 5, lines 55-58).
25. In regard to claim 20, Baker discloses wherein the ring is made of metal (column 12, lines 1-26).

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26. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

27. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 1 and 2 above, and further in view of Radke (U.S. 3,124,502) or Pfefferle (U.S. 1,942,489). Baker discloses wherein the ring is split. Baker fails to disclose the relationship to the axial plane of the ring in which the ring is split. However, Radke (Figures 2-8) and Pfefferle (Figures 1, 2, and 6) show annular rings split in various cutting configurations, including a cut extending in an axial plane (Radke, Figure 3, and Pfefferle, Figure 1) and a cut extending in a non-axial plane (Radke, Figures 2, 4-6, and 8; and Pfefferle, Figure 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to select the cutting configuration based upon its suitability for the intended use as a matter of design choice. Pfefferle discloses that a split ring that has a cut extending in a non-axial plane is less likely to separate than a split ring that has been cut in an axial plane when compressed (column 1, lines 22-33).

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28. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claim 1 above, and in further view of Robinson (U.S. 5,779,285). Baker discloses a ring. Baker fails to disclose a ring made of plastic. Robinson teaches a coupling assembly with a ring wherein all the major components are preferably plastic (column 2, lines 10-13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the ring of Baker of plastic as taught by Robinson to allow the coupling to function in a relatively corrosive environment (column 2, lines 12 and 13).

29. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 1 and 6 above, and further in view of Hanes (U.S. 3,381,983). Baker provides a projection means comprising a circular rib. Baker fails to disclose a circular rib that is of a generally saw-tooth shape having a right-angled side and a beveled side. Hanes teaches a lock ring used with a pipe with a circumferential groove that is of a generally saw-tooth shape having a right-angled side and a beveled side (Figure 6). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the circular rib of Baker with a saw-tooth shape having a right-angled side and a beveled side ring as taught by Hanes to facilitate assembly of the coupling joint (column 3, lines 40-75, and column 4, lines 1-6).

30. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claim 1 above, and further in view of Judge (U.S. (5,092,636). Baker discloses a mounting ring and a gasket. Baker fails to provide the mounting ring with a circular recess configured to accommodate an elastomeric gasket. Judge teaches forming a circular recess configured to

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accommodate an elastomeric gasket into a radially extending planar surface of a pipe joint (column 1, lines 14-18). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the mounting ring and a gasket of Baker with a circular recess as taught by Judge to allow the use of coupling in equipment with high positive pressure or high negative pressure (column 1, lines 9-12).

31. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker and Judge as applied to claims 1 and 8 above, and further in view of Nathan (U.S. (2,259,940) or Trickey (U.S. 1,976,589). Baker discloses a mounting ring and a gasket. Judge teaches a circular recess configured to accommodate an elastomeric gasket. However, neither Baker nor Judge discloses a gasket formed with an inner slot. Both Nathan (Figure 4) and Trickey (Figure 5) teach gaskets that possess an inner slot. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a slot feature as taught by either of Nathan and Trickey to the gasket of Baker to prevent gasket creep when the joint cyclically expands and contracts due to temperature changes with time (Nathan, column 1, lines 27-29) or to minimize gasket material per outer-surface area offered (Trickey, column 4, lines 146-150, and column 5, lines 1-5).

32. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker, Judge, and Nathan as applied to claims 1, 8, and 9 above, and further in view of Conley et al (U.S. 4,488,741). Baker, Judge, and Nathan provide for a ring with a circular recess configured to accommodate a gasket and a gasket that is formed with an inner slot. Baker, Judge, and Nathan

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do not disclose wherein the gasket is formed with a thin flap. Conley et al teach a gasket (54) that is formed with a thin flap (56, Figure 5). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the ring with a circular recess configured to accommodate a gasket and a gasket that is formed with an inner slot as provided by Baker, Judge, and Nathan with a gasket flap as taught by Conley et al to properly orientate and secure the gasket (column 4, lines 28-31).

33. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 1, 11, and 12 above, and further in view of Martin (U.S. 3,284,112). Baker discloses a ring that has an outer cone-shaped surface wherein the cone angle is between 15 degree-30 degrees relative to the axis of the ring. Baker fails to disclose wherein an upright shoulder extends around the end of the cone surface. Martin teaches a ring with an upright shoulder (14) that extends around the end of the cone surface (Figure 3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to Provide the ring of Baker with an upright shoulder as taught by Martin to prevent the flanges from being driven too far onto the ring (column 4, lines 26-30).

34. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claims 1, 14, and 15 above, and further in view of Connors et al (U.S. 4,101,112). Baker discloses mounting flange that is formed with an inner cone-shaped surface matching the cone-shaped surface of the ring, wherein the mounting flange is formed with a series of bores through which tightening bolts are may pass. Baker fails to disclose that the bores are partly surrounded

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by arcuate projections. Connors et al teach a flange in which the bolt bores are partly surrounded by arcuate projections (Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the mounting flange of Baker with partial arcuate projections as taught by Connors et al to assist in aligning the ring during assembly of the joint.

35. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker as applied to claim 1 above, and further in view of Risley (U.S. 2,779,610). Baker discloses a ring composed of more than one segment. Baker fails to disclose that the segments be held together by an external elastic band. Risley teach a multi-segment ring held together by an external elastic band (Figure 29 and column 6, lines 21-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the multi-segment ring of Baker with an external elastic band as taught by Risley to allow retaining the ring in position during assembly (column 6, lines 31 and 32).

36. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker and Risley as applied to claims 1 and 17 above, and further in view of Pfefferle (U.S. 1,984,806). Baker and Risley provide for a multi-segment ring held together by an external elastic band. Pfefferle teaches the inclusion of metal inserts interposed between adjacent segments of a ring (column 1, lines 25-39). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the multi-segment ring held together by an external elastic band as taught by Baker and Risley with the metal inserts interposed between adjacent segments of Pfefferle to prevent the cold flow or extrusion of the ring (column 1, lines 10-12).

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37. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baker, and Pfefferle as applied to claims 1, 17, and 18 above and in further view of Risley. Baker and Pfefferle provide for a multi-segment ring with metal inserts interposed between adjacent segments. Risley teaches a multi-segment ring held together by an elastic band threaded therethrough (Figure 28 and column 6, lines 21-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the multi-segment ring of Baker with an internal elastic band as taught by Risley to allow retaining the ring in position during assembly (column 6, lines 31 and 32).

Conclusion

38. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Rescheneder (U.S. 2,786,697) teaches pressure sealed coupling. Seamark (US. 2,531,922) teaches a pipe coupling. Wilson (U.S. 1,821,867) teaches a joint structure for pipes. Banta (U.S. 1,556,745) teaches a pipe connection. Moore (U.S. 1,365,530) teaches a pipe joint.

39. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay R. Ripley whose telephone number is 571-272-7535. The examiner can normally be reached on 6:00AM - 3:00PM.

40. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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41. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



J. R. Ripley
09 AUG 2006



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